

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the above-identified application.

Listing of Claims

1. (Previously presented) A resource management system for a communications system comprising:
 - a resource manager; and
 - a resource control block, wherein
 - said resource control block corresponds to a resource of said communications system,
 - said resource is of one resource type of a plurality of resource types,
 - said resource control block maintains information regarding said resource,
 - said resource control block comprises a generic section containing information applicable to each of said plurality of said resource types,
 - said resource control block comprises a resource-specific section containing information applicable to said one resource type, and
 - said resource manager is configured to assign an identifier to said resource control block.
2. (Canceled)
3. (Original) The resource management system of claim 1, wherein said resource is a hardware component of said communications system.
4. (Original) The resource management system of claim 1, wherein said information includes a status of said resource.

5. (Previously presented) The resource management system of claim 1, wherein
said communications system comprises a processor, communicatively coupled to
said resource,
said processor is configured to execute said resource manager, and
said resource manager is configured to maintain said resource control block in
response to communications between said processor and said resource.
6. (Previously presented) The resource management system of claim 1, further comprising:
a plurality of resource control blocks, wherein
said resource control block is a one of said plurality of resource control blocks,
said identifier uniquely identifies said resource within said communications
system, and
said identifier is configured to serve as an index into a table of pointers, each of
said pointers pointing to at least one of said plurality of resource control
blocks.
7. (Previously presented) The resource management system of claim 1, further comprising:
a plurality of resources, wherein
said plurality of resources include said resource,
said plurality of resources are coupled to one another in a hierarchy,
each of said plurality of resources is one of said plurality of resource types, and
all of said plurality of resources that are in a single level of said hierarchy are of a
single one of said plurality of resource types; and
a plurality of resource control blocks, wherein
said plurality of resource control blocks include said resource control block, and
each of said plurality of resource control blocks correspond to one of said
plurality of resources.
- 8-9. (Canceled)

10. (Previously presented) The resource management system of claim 7, further comprising:
a plurality of resource managers, wherein
said plurality of resource managers includes said resource manager,
each of said plurality of resource managers maintains a hierarchical list of said
plurality of resource control blocks, and
said hierarchical list represents resources controlled by said each of said plurality
of resource managers.
11. (Previously presented) The resource management system of claim 10, wherein said
hierarchical list is a resource list and said resource list stores information regarding said
hierarchy and interdependencies of said plurality of resources.
12. (Original) The resource management system of claim 7, wherein
said resource manager is a node resource manager, and
said resource control block is a node resource control block.
13. (Original) The resource management system of claim 10, wherein
said resource manager is a node resource manager, and
said resource control block is a node resource control block.
14. (Previously presented) The resource management system of claim 11, wherein
each one of a first plurality of said plurality of resource managers is a shelf resource
manager, and
each one of a first plurality of said plurality of resource control blocks is a shelf resource
control block.
15. (Previously presented) The resource management system of claim 14, wherein
each one of a second plurality of said plurality of resource managers is a group resource
manager, and
each one of a second plurality of plurality of said resource control blocks is a group
resource control block.

16. (Previously presented) The resource management system of claim 15, wherein each one of a third plurality of said plurality of resource managers is a line card resource manager, and each one of a third plurality of said plurality of resource control blocks is a line card resource control block.
17. (Previously presented) The resource management system of claim 16, wherein each one of said a second plurality of said plurality of resource control blocks contains information from at least one of said third plurality of said plurality of resource control blocks, each one of said a first plurality of said plurality of resource control blocks contains information from at least one of said second plurality of said plurality of resource control blocks, and said resource control block contains information from at least one of said first plurality of said plurality of resource control blocks.
18. (Previously presented) A resource management system for a communications system comprising:
a resource control block comprising a generic section and a resource-specific section; and
a resource manager, wherein
said communications system includes a system processor having a resource communicatively coupled thereto,
said system processor is configured to execute said resource manager,
said resource is of one resource type of a plurality of resource types,
said generic section contains information applicable to each of said plurality of resource types, and said resource-specific section contains information applicable to said one resource type, and
said resource manager is configured to assign an identifier to said resource control block.
19. (Previously presented) The resource management system of claim 18, wherein said system processor is configured to create said resource control block.

20. (Previously presented) The resource management system of claim 19, wherein said resource manager is further configured to maintain said resource control block in response to communications between said system processor and said resource.
21. (Previously presented) The resource management system of claim 20, wherein said resource control block comprises status information.
22. (Previously presented) The resource management system of claim 20, wherein said resource manager is configured to cause said system processor to create said resource control block.
23. (Original) The resource management system of claim 20, wherein said resource is a hardware component of said communications system.
24. (Original) The resource management system of claim 20, further comprising:
a system resource control block, wherein said system resource control block maintains information regarding a status of said system processor.
25. (Previously presented) The resource management system of claim 20, further comprising:
a plurality of resource control blocks, wherein
said resource control block is a one of said resource control blocks,
said identifier uniquely identifies said resource within said communications system, and
said identifier is configured to serve as an index into a table of pointers, each of said pointers pointing to at least one of said plurality of resource control blocks.

26. (Original) The resource management system of claim 20, wherein
said resource is one of a first plurality of resources, where each one of said first plurality
of resources is coupled to said system processor,
said resource control block is one of a first plurality of resource control blocks, and
each one of said first plurality of resource control blocks is stored on a corresponding one
of said first plurality of resources.
27. (Previously presented) The resource management system of claim 26, further
comprising:
a plurality of resource managers, wherein
each one of said plurality of resource managers runs on a corresponding one of
said first plurality of resources and maintains a corresponding one of said
first plurality of resource control blocks.
28. (Original) The resource management system of claim 26, further comprising
a second plurality of resources, wherein
at least one of said second plurality of resources is coupled to said each one of
said first plurality of resources, and
said each one of said first plurality of resources comprises a resource processor;
a plurality of resource managers, each resource processor of said first plurality of
resources configured to run a corresponding one of said first plurality of resource
managers; and
a second plurality of resource control blocks, wherein
each one of said second plurality of resource control blocks maintains information
regarding a status of a one of said second plurality of resources,
said each resource processor of said first plurality of resources is configured to
maintain a one of said second plurality of resource control blocks
corresponding to said at least one of said second plurality of resources in
response to communications with said at least one of said second plurality
of resources.

29. (Original) The resource management system of claim 26, wherein said system processor is configured to maintain information regarding said one of said second plurality of resource control blocks corresponding to said at least one of said second plurality of resources in response to communications with said at least one of said second plurality of resources and a corresponding one of said each resource processor of said first plurality of resources.

30. (Original) The resource management system of claim 20, wherein said resource manager is further configured to maintain network resource information, said network resource information corresponding to resources available to said system processor via a network to which said communications system is coupled.

31. (Previously presented) A method of managing a communications system, said method comprising:

creating a resource control block comprising a generic section and a resource-specific section and corresponding to a resource of said communications system, and assigning an identifier to said resource control block using a resource manager, wherein said communications system comprises a processor and said resource, said resource is of one resource type of a plurality of resource types, said generic section contains information applicable to each of said plurality of resource types, and said resource-specific section contains information applicable to said one resource type, said resource is coupled to said processor, and said resource control block maintains information regarding a status of said resource.

32. (Original) The method of claim 31, wherein said resource is a hardware component of said communications system.

33. (Previously presented) The method of claim 31, wherein
said resource control block is a one of a plurality of resource control blocks,
said identifier uniquely identifies said resource within said communications
system, and
said identifier is configured to serve as an index into a table of pointers, each of
said pointers pointing to at least one of said plurality of resource control
blocks.
34. (Original) The method of claim 31, further comprising:
maintaining said resource control block, wherein
said processor is configured to maintain said resource control block,
said resource control block is maintained by said processor in response to
communications between said processor and said resource.
35. (Original) The method of claim 34, further comprising:
creating a processor resource control block corresponding to said processor.
36. (Original) The method of claim 34, further comprising:
receiving a power-up message from said resource, wherein said resource control block is
created by said processor in response to said power-up message from said
resource.
37. (Previously presented) The method of claim 34, further comprising:
maintaining said resource control block in response to a receipt of a keep-alive message
from said resource.
38. (Previously presented) The method of claim 34, further comprising:
maintaining said resource control block in response to a receipt of a reply from said
resource, wherein said reply is generated in response to a protocol message sent
by said processor.

39. (Previously presented) The method of claim 34, wherein a protocol is employed in said communications.
40. (Previously presented) The method of claim 39, wherein
said protocol supports protocol messages configured to cause
initialization of said resource,
said processor to download a command to said resource,
said resource to execute said command,
said resource to provide status information to said processor, and
said resource to perform a self-test.
41. (Previously presented) The method of claim 34, further comprising
for each one of a plurality of resources, creating a resource control block for each of said
resources coupled to said each one of said resources, wherein
said resource is one of said plurality of resources,
each one of said plurality of resources is communicatively coupled to at least one
other of said plurality of resources,
said plurality of resources are arranged in a hierarchy having a plurality of levels,
and
said each of said plurality of resources coupled to said each one of said plurality
of resources is at a one of said levels below a one of said plurality of levels
of said each one of said plurality of resources.

42. (Previously presented) The method of claim 41, further comprising:
maintaining each one of said plurality of resource control blocks on a corresponding one
of said plurality of resources, wherein
a one of a plurality of resource managers corresponding to said each one of said
plurality of resource control blocks performs said maintaining of said each
one of said plurality of resource control blocks; and
maintaining a resource list for each one of said plurality of resource managers, wherein
each said resource list is a hierarchical list of ones of said plurality of resource
control blocks that correspond to ones of said plurality of resources under
control of a one of said plurality of resources corresponding to said each
one of said plurality of resource managers.
43. (Previously presented) The method of claim 42, wherein said resource list represents at
least a portion of said hierarchy and interdependencies between ones of said plurality of
resources.
- 44-69. (Canceled)

70. (Previously presented) An apparatus for managing a communications system, said method comprising:

means for creating a resource control block comprising a generic section and a resource-specific section and corresponding to a resource of said communications system,
and

means for assigning an identifier to said resource control block using a resource manager,
wherein

said communications system comprises a processor and said resource,
said resource is of one resource type of a plurality of resource types,
said generic section contains information applicable to each of said plurality of
resource types, and said resource-specific section contains information
applicable to said one resource type,
said resource is coupled to said processor, and
said resource control block maintains information regarding a status of said
resource.

71. (Original) The apparatus of claim 70, wherein said resource is a hardware component of said communications system.

72. (Previously presented) The apparatus of claim 70, wherein

said resource control block is a one of a plurality of resource control blocks,
said identifier uniquely identifies said resource within said communications
system, and

said identifier is configured to serve as an index into a table of pointers, each of
said pointers pointing to at least one of said plurality of resource control
blocks.

73. (Original) The apparatus of claim 70, further comprising:

means for maintaining said resource control block, wherein
said processor is configured to maintain said resource control block,

said resource control block is maintained by said processor in response to communications with said resource.

74. (Original) The apparatus of claim 73, further comprising:
means for creating a processor resource control block corresponding to said processor.
75. (Original) The apparatus of claim 73, further comprising:
means for receiving a power-up message from said resource, wherein said resource control block is created by said processor in response to said power-up message from said resource.
76. (Previously presented) The apparatus of claim 73, further comprising:
means for maintaining said resource control block in response to a receipt of a keep-alive message from said resource.
77. (Previously presented) The apparatus of claim 73, further comprising:
means for maintaining said resource control block in response to a receipt of a reply from said resource, wherein said reply is generated in response to a protocol message sent by said processor.
78. (Previously presented) The apparatus claim 73, wherein a protocol is employed in said communications.
79. (Previously presented) The apparatus of claim 78, wherein
said protocol supports protocol messages configured to cause
initialization of said resource,
said processor to download a command to said resource,
said resource to execute said command,
said resource to provide status information to said processor, and
said resource to perform a self-test.

80. (Previously presented) The apparatus of claim 73, further comprising means for creating, for each one of a plurality of resources, a resource control block for each of said plurality of resources coupled to said each one of said plurality of resources, wherein
said resource is one of said plurality of resources,
each one of said plurality of resources is communicatively coupled to at least one other of said plurality of resources,
said plurality of resources are arranged in a hierarchy having a plurality of levels,
and
said each of said plurality of resources coupled to said each one of said plurality of resources is at a one of said levels below a one of said plurality of levels of said each one of said plurality of resources.
81. (Previously presented) The apparatus of claim 80, further comprising:
means for maintaining each one of said plurality of resource control blocks on a corresponding one of said plurality of resources, wherein
a one of a plurality of resource managers corresponding to said each one of said plurality of resource control blocks is configured to perform maintenance of said each one of said plurality of resource control blocks; and
means for maintaining a resource list for each one of said plurality of resource managers, wherein
each said resource list is a hierarchical list of ones of said plurality of resource control blocks that correspond to ones of said plurality of resources under control of a one of said plurality of resources corresponding to said each one of said plurality of resource managers.
82. (Previously presented) The apparatus of claim 81, wherein said resource list represents at least a portion of said hierarchy and interdependencies between ones of said plurality of resources.